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Claim Status

1. (Currently Amended) A process for the thermal decarboxylation of dicarboxylic acids, ~~in particular 3,4-ethylenedioxythiophene-2,5-dicarboxylic acid,~~ as starting material, ~~characterized in that the~~ comprising: reacting the starting material ~~is used as a solid and/or and, optionally,~~ the reaction is carried out in the presence of a plurality of fluidized-bed bodies, and wherein ~~with~~ the reaction being is carried out in the absence of solvents, and discharging the decarboxylation product formed in the reaction, ~~in particular 3,4-ethylenedioxythiophene, being discharged from the reaction zone in gaseous form.~~
2. (Currently Amended) The process as claimed in claim 1, characterized wherein ~~in that~~ the decarboxylation is carried out at a temperature of from 100 to 600°C, ~~preferably from 100 to 500°C, particularly preferably from 150 to 400°C.~~
3. (Currently Amended) The process according to ~~at least one of~~ claim[[s]] 1 and 2, characterized in that wherein the process is carried out continuously in a bubble-forming or, turbulent, or jet-permeated fluidized bed or in an internally or externally circulating fluidized bed.
4. (Currently Amended) The process as claimed in ~~at least one of~~ claims 1 to 3, characterized in that wherein the reaction is carried out in the presence of an inert auxiliary gas, ~~in particular a gas selected from the group consisting of noble gases, nitrogen, water vapor, carbon monoxide, and carbon dioxide and mixtures thereof of various such inert auxiliary gases.~~
5. (Currently Amended) The process as claimed in ~~any of~~ claim[[s]] 1 to 4, characterized in that wherein the reaction is carried out in a fluidized-bed reactor in which fluidized bed bodies having a mean diameter (number average) greater than the particle diameter of the dicarboxylic acid ~~are used.~~
6. (Currently Amended) The process as according to ~~claimed in~~ claim 5, characterized in that wherein the fluidized bed bodies have a solids density p_s of $0.5 \text{ g}\cdot\text{cm}^{-5} < p_s < 6 \text{ g}\cdot\text{cm}^{-3}$.

7. (Currently Amended) The process according to ~~as claimed in any of claim[[s]] 1 to 6, characterized in that~~ wherein the fluidized bed bodies are used as heat transfer media wherein the fluidized bed bodies ~~which~~ are preheated outside the reaction zone and circulated through the reaction zone and comprise ~~consist partly or entirely of~~ a catalytically active material.
8. (Currently Amended) The process according to ~~as claimed in any of claim[[s]] 1 to 7, characterized in that~~ wherein the catalytically active material of the fluidized bed bodies comprises ~~consist partly or entirely of a catalytically active material, in particular~~ copper or a copper salt, preferably CuCO_3 .
9. (Currently Amended) The process according to ~~as claimed in any of claims 1 to 8, characterized in that~~ wherein any solid carried out from the reaction zone by the gas stream is separated off from the product by means of a cyclone and/or filter.
10. (Currently Amended) The process ~~as claimed in any of~~ according to claims 1 to 9, ~~characterized in that~~ wherein the unreacted solid starting material separated off from the product gas stream is recirculated batchwise or continuously to the reaction zone.
11. (New) The process according to claim 1 wherein the dicarboxylic acid is 3,4-ethylenedioxythiophene-2,5-dicarboxylic acid.
12. (New) The process according to claim 8 wherein the catalytically active material of the comprises CuCO_3 .